```
% Fixed-Point Method for function F(x)=x-1/100*(x-2^(-x))
clc;
clear all;

% Inputs: p0, tol, N0
tol = 1e-8;  % error tolerance
N0 = 500;    % maximum number of iteration
p0= 1;     % starting point

% Start Iterating
j = 1;
p = p0;
F = @(x) 4*x^3+2*x-2;
G = @(x) 12*x^2+2;

% This is a shorter way of writing:
%
% function output = F(x)
%     output = x-1/100*(x-2^(-x));
% end

while j < N0

  p = p-F(p)/G(p);

  if abs(p-p0)<tol
      % close enough to actual root, stop
      break;
  else
      p0=p;
      j = j + 1;
  end

end

fprintf('Iteration number = %d \n', j);
fprintf('p = %.8f \n',p);
fprintf('d((p,p^2),(1,0)) = %.5f \n', sqrt(p^4+(p-1)^2));
```